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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,961	03/22/2004	Jong-Whan Cho	21C-0119	2751
23413	7590	12/13/2007		
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			EXAMINER CHOWDHURY, AFROZA Y	
			ART UNIT 2629	PAPER NUMBER
			MAIL DATE 12/13/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/805,961

Applicant(s)

CHO ET AL.

Examiner

Afroza Y. Chowdhury

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 13-16 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment received on **October 4, 2007** has been entered. Claims 1-30 are currently pending. Applicant's amended claims and arguments are addressed herein below.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colgan et al. (US Patent 6529189) in view of Mumford (US Patent 6377249).

As to claim 1, Colgan et al. discloses a stylus comprising: a body (fig. 2);
a control module (fig. 2(26), microcontroller) that is configured to output a control signal in response to the sensing signal (col. 3, lines 25-35);
and a light generating module (fig. 2(18), LED) that is configured to receive a driving power signal (fig. 3, col. 3, lines 40-45) in response to the control signal to generate a light (fig. 3, col. 3, lines 35-40).

Colgon et al. does not specifically teach outputting a control signal in response to the sensing signal when the level of the sensing signal is higher than a level of a reference signal.

However, it is obvious for the control module of Colgon et al. to output a control signal in response to the sensing signal when the level of the sensing signal is higher than a level of a reference signal.

Colgan et al. also does not teach photo detective module that is being disposed in the body of the stylus.

Mumford teaches a light pen comprising a photo detective module (col. 6, lines 30-46) that is configured to detect a light inputted from an external source to output a sensing signal of which level is changed in accordance with an intensity of the light (col. 6, line 65 – col. 7, line 1) and the photo detective module (col. 6, lines 30-46) being disposed in the body (fig. 1).

Therefore, it would have been obvious to one skill in the art at the time of the invention was made to combine Mumford's light pen with the stylus of Colgan et al. to make a light pen where a detector detects a first light to output a sensing signal and a control module outputs a driving signal in response to the sensing signal to generate a second light in order to reduce cost and weight.

As to claim 2, making a light pen with a light generating module that includes a light emitting diode for generating a white light is a design choice.

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As to claim 3, Mumford teaches a light pen wherein the photo detective module (col. 6, lines 30-46) includes a photo transistor or a photo diode.

4. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colgan et al. (US Patent 6529189) in view of Mumford (US Patent 6377249) and in further view of Traub (Us Patent 3911270).

As to claims 4 and 10, Colgan et al. (as modified by Mumford) discloses a stylus that includes a tip (fig. 2, col. 3, lines 10-11) and a switch (fig. 1 and 2 (12,14), col. 3, lines 25-34, buttons) applies an operation signal to the control module in response to the movement of the tip (fig. 2(16), col. 3, lines 10-11).

Colgan et al. (as modified by Mumford) does not teach any opening at the end of the body and a tip having a cylinder flange shape. Making a cylinder flange shape tip is a design choice.

Traub teaches a light pen wherein an end of the body includes an opening (fig. 1(16)) through which the light exits and the tip (fig. 1(14), col. 2, lines 25-31) comprises an elastic member (fig. 1(36), col. 2, lines 54-58).

Therefore, it would have been obvious to one skill in the art at the time of invention was made to combine Traub's light pen with the stylus of Colgan et al. (as modified by Mumford) to make a light pen to operate with a liquid crystal display device.

Allowable Subject Matter

5. Claims 13 –16 are allowable.
6. The following is a statement of reasons for the indication of allowable subject matter:

As to claim 13, none of the prior art references, alone or in combination, teach or fairly suggest the limitation of “a light pen comprising: a body; a driving pulse generating module that is configured to generate a first driving power pulse having a first frequency during a first time period and a second driving power pulse having a second frequency during a second time period, the driving pulse generating module being disposed in the body; and a light generating module that is configured to generate a first light in response to the first driving power pulse and a second light in response to the second driving power pulse, the first light flickering at a third frequency, and the second light flickering at a fourth frequency.”

As to claim 14, none of the prior art references, alone or in combination, teach or fairly suggest the limitation of “the light pen wherein the first and second frequencies respectively have a frequency except a commercial power frequency.”

As to claim 15, none of the prior art references, alone or in combination, teach or fairly suggest the limitation of “the light pen wherein the driving pulse generating module generates alternately the first driving power pulse and the second driving power pulse.”

The subject matter of claim 16, "the light pen wherein the light generating module includes a light emitting diode or a semiconductor laser beam generator", is allowable since it is dependent on allowable claim 13.

Response to Arguments

7. Applicant's arguments filed **October 4, 2007** have been fully considered but they are not persuasive. Applicants argue that Colgan and Mumford do not teach "a photo detective module....a control module....". The examiner respectfully disagrees.

Colgan et al. teaches a control module (fig. 2(26), microcontroller) that is configured to output a control signal in response to the sensing signal (col. 3, lines 25-35) and it is obvious for the control module of Colgan et al. to output a control signal in response to the sensing signal when the level of the sensing signal is higher than a level of a reference signal.

Mumford et al. teaches a light pen comprising a photo detective module (col. 6, lines 30-46) that is configured to detect a light inputted from an external source to output a sensing signal of which level is changed in accordance with an intensity of the light (col. 6, line 65 – col. 7, line 1) and the photo detective module (col. 6, lines 30-46) being disposed in the body (fig. 1).

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Afroza Y. Chowdhury whose telephone number is 571-270-1543. The examiner can normally be reached on 7:30-5:00 EST, 5/4/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC
12/06/2007


AMARE MENGISTU
SUPERVISORY PATENT EXAMINER